



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,424	11/29/2004	Tatsuya Kato	890050.513USPC	4961
500 7590 04/04/2007 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVE SUITE 5400 SEATTLE, WA 98104			EXAMINER NGUYEN, LINH THI	
			ART UNIT	PAPER NUMBER
			2627	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/516,424

Applicant(s)

KATO ET AL.

Examiner

Linh T. Nguyen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims, 2-4, 8 and 14-16 are withdrawn in view of the newly discovered reference(s) to Ueki. Rejections based on the newly cited reference(s) follow.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show Figures 5a and 5b as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are

not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. In the specification on paragraph [0153], mention Figures 5(a) and 5(b) but the drawing does not show Fig. 5a or 5b.

Claim Objections

Claims 1, 3, 4, 13-16, and 19 are objected to because of the following informalities: the claims need to define what are VL, VM and VH. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 12, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueki (US Patent Number 6404713).

In regards to claims 1, 12, 13 and 19, Ueki discloses a method, apparatus and medium for recording data in an optical recording medium (Fig. 2) wherein data are recorded in a write-once type optical recording medium including at least one recording layer disposed on a substrate (Fig. 2, element 2 recording layer on a substrate element 1) by projecting a laser beam whose power is modulated in accordance with a pulse

train pattern including at least pulses whose levels are set to levels corresponding to a recording power (Fig. 3) and a bottom power onto the at least one recording layer (Pb) and forming a recording mark in a predetermined region of the at least one recording layer (Fig. 3, input signal is recording mark), the method for recording data in an optical recording medium comprising a step of employing a pulse train pattern (Fig. 3) having the smaller number of pulses whose level is set to a level corresponding to a recording power as a linear recording velocity becomes higher (Fig. 3, as linear velocity increase the waveform is WB so has less pulses and as decrease in linear velocity the recording waveform is WA with more pulses) and modulating the power of a laser beam thereby to form a recording mark in the predetermined region of the at least one recording layer (Column 10, lines 30-36 and lines 60-63), wherein the number of pulses is set to 1 in the case where data are to be recorded at a linear recording velocity equal to or higher than a first linear recording velocity V_H (Fig. 3, the waveform WB is set to 1 pulse as linear velocity increases).

In regards to claims 3, 4 and 15, Ueki discloses the method for recording data in an optical recording medium in accordance with claim 1, wherein in the case where data are to be recorded at a linear recording velocity V_M (velocity of 6 m/s) lower than the first linear recording velocity V_H (9 m/s) and higher than a second linear recording velocity V_L (3 m/s; Column 11 lines 30-33), the number of pulses is set to 1 at least when the shortest recording mark is to be formed (Fig. 3, if recording mark is 4T the pulses would be set to 1) and the number of pulses is set larger as the length of a

recording mark to be formed becomes longer (Fig. 3, with 8T the pulses is longer).

In regards to claims 5 and 17, discloses the method and apparatus for recording data in an optical recording medium in accordance with claim 1 wherein in the case where data are to be recorded by forming recording marks having respective lengths at a linear recording velocity, the number of pulses is set so that a difference between itself and the number representing a length of a recording mark is constant (Fig. 3, the pulses is constant in the waveform WA and WB it is 1 pulse).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki in view of Hideya (JP Publication number 10106008).

In regards to claims 6 and 18, Ueki discloses all that is claimed in claim 1. However, Ueki does not disclose the method and apparatus for recording data in an optical recording medium wherein the first linear recording velocity is determined to be equal to or higher than 10 m/sec.

In the same field of endeavor, Hideya discloses the method and apparatus for recording data in an optical recording medium wherein the first linear recording velocity is determined to be equal to or higher than 10 m/sec (Fig. 5). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine a method of recording data in an optical recording medium of Ueki to have a linear velocity equal to or higher than 10 m/sec as suggested by Hideya. The motivation for doing so would have been to perform a recording mark at a high speed.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki in view of Sunagawa (US Patent number 6442119).

In regards to claims 7 and 8, Ueki discloses everything claimed as applied above (see claim 1). However, Ueki does not disclose a recording data in an optical recording medium, wherein the bottom power is set to a higher level as the linear recording velocity becomes higher.

In the same field of endeavor, Sunagawa discloses the bottom power is set to a higher level as the linear recording velocity becomes higher (Column 3, lines 60-67). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of recording data in an optical recording medium of Ueki to set the bottom power higher as velocity increase as suggested by Sunagawa. The motivation for doing so would have been to record at a high-speed with using high power laser beam.

Claims 9 and 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki in view of Nobukuni et al (Patent Number 6411579).

In regards to claim 9, Ueki discloses everything claimed as applied above (see claim 1). However, Ueki does not disclose a laser beam having a wavelength equal to or shorter than 450 nm.

In the same field of endeavor, Nobukuni et al discloses a laser beam having a wavelength equal to or shorter than 450nm (Column 5, lines 47-51). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of recording data in an optical recording medium of Ueki to have a laser beam wavelength of 450nm as taught by Nobukuni et al. The motivation for doing so would have been to record at a high-speed using a blue wavelength laser light on any optical recording medium.

In regards to claim 10, Ueki does not but Nobukuni et al discloses the method for recording data in an optical recording medium, wherein data are recorded in the optical recording medium by employing an objective lens and a laser beam whose numerical aperture NA and wavelength λ satisfy $\lambda/NA \leq 640$ nm, and projecting the laser beam onto the optical recording medium via the objective lens (Column 5, lines 47-51; wavelength of $400/.65=615$ nm, which is less than 640nm). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of recording data in an optical recording medium of Ueki to have a laser

beam with a numerical aperture and wavelength of less than 640nm as taught by Nobukuni et al. The motivation is the same as claim 9 above.

Claims 11 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki in view of Nobukuni et al as applied to claim 1 above, and further in view of Takashi et al (JP Publication Number 2001101709).

In regards of claims 11 and 20, Ueki and Nobukuni et al do not but Takashi et al discloses the method and medium for recording data in an optical recording medium, wherein the optical recording medium further comprises a light transmission layer (Fig. 3, element 11B), and a first recording layer (Fig. 3, element 111) and a second recording layer (Fig. 3, element 112) formed between the substrate (Fig. 3, elements 101 and 102) and the light transmission layer, and is constituted so that the at least two recording marks are formed by projecting the laser beam thereunto (Fig. 3), thereby mixing an element contained in the first recording layer as a primary component and an element contained in the second recording layer as a primary component (Paragraph [0040]). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Ueki and Nobukuni et al to contain a substrate and 2 recording layers as suggested by Takashi et al. The motivation for doing so would have been to offer a storage medium that is reliable under high-speed type recording.

In regards to claim 21, Ueki and Nobukuni et al do not but Takashi et al discloses the write-once type optical recording medium, wherein the second recording layer is formed so as to be in contact with the first recording layer (Fig. 3). The motivation is the same as claim 20 above.

In regards to claim 22, Ueki and Nobukuni et al do not but Takashi et al discloses the write-once type optical recording medium, wherein the light transmission layer is formed so as to have a thickness of 10 nm to 300 nm (Paragraph [0021]). The motivation is same as claim 20 above.

Response to Arguments

Applicant's arguments, see page 9, lines 5-11, filed 01/10/07, with respect to the rejection(s) of claim(s) 12 under Hideya have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ueki.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
March 27, 2007



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER